

ART. XII.—*Some Facts illustrative of the Meteorology of the month of August, 1858.*

[According to observations taken at the Flagstaff Observatory, appr. latitude 37° 48' South, longitude 145° East.]

By Professor GEORGE NEUMAYER.

[With Four Plates.]

[Read before the Institute, 8th November, 1858.]

TABLE I.—(VIDE PLATES NOS. 1 & 4.)

DAILY MEANS OF THE DIFFERENT METEOROLOGICAL ELEMENTS FOR THE MONTH OF AUGUST, 1858.

Days of the Month	Mean direction of Wind.	Pressure of Air.	Temperature of Air.	Temperature of Soil.	Pressure of		Rain.		Hours of		Force of Wind.	Amount of Clouds.	Electricity and Ozone.	
					Vapour.	Dry Air.	Inches.	Hours.	Fog.	Dew.			Electr.	Ozone.
1	187	29.996	Deg. Fah 45.23	Deg. Fah 45.39	Inch. 0.268	Inch. 29.728	Inch. 0.0	h. 0.2	h. 0.0	h. 6.0	2.13	5.21	Electr. 3.55	Ozone. 3.0
2	196	29.753	47.04	47.21	0.281	29.472	0.014	4.7	0.0	0.0	4.00	7.67	1.12	—
3	130	29.774	48.48	49.66	0.294	29.480	0.048	3.8	4.0	0.2	1.33	6.98	3.01	3.5
4	231	29.856	47.43	50.00	0.324	29.532	0.010	0.2	11.0	0.0	1.00	6.04	5.53	2.5
5	257	29.756	48.66	52.07	0.312	29.444	0.003	0.0	6.0	3.0	0.77	5.48	3.84	—
6	190	29.696	48.29	49.19	0.265	29.431	0.000	0.0	0.0	6.0	3.67	5.54	2.99	—
7	149	29.762	53.25	53.82	0.300	29.462	0.010	0.5	0.0	0.0	3.04	6.37	2.07	2.5
8	208	29.966	50.81	53.53	0.329	29.637	0.002	0.3	1.0	1.5	1.46	5.77	3.88	4.0
9	218	29.818	53.37	53.31	0.316	29.502	0.000	0.2	0.0	0.0	2.42	9.33	2.56	2.5
10	202	29.337	52.00	59.85	0.336	29.061	0.112	10.2	0.0	0.0	2.83	9.56	0.83	—
11	50	29.460	49.39	48.83	0.344	29.116	0.389	14.8	0.0	0.0	4.14	9.75	1.16	—
12	75	29.672	49.12	47.25	0.298	29.374	0.064	3.55	0.0	0.0	6.58	8.42	1.56	—
13	59	29.788	48.20	46.20	0.296	29.492	0.012	3.15	0.0	0.0	5.21	9.75	1.52	—

TABLE I.—(CONTINUED.)

Days of the Month.	Mean direction of Wind.	Pressure of Air.	Temperature of Air.	Temperature of Soil.	Pressure of		Rain.		Hours of		Force of Wind.	Amount of Clouds.	Electricity and Ozone.	
					Vapour.	Dry Air.	Inches.	Hours.	Fog.	Dew.			Electr.	Ozone.
14	51	29.968	48.94	Deg. Fah	Inch.	Inch.	Inch.	h.	h.	3.58	9.35	2.66	6.0	
15	42	30.031	49.44	47.51	0.301	29.667	0.036	3.9	0.0	2.83	6.96	2.35	—	
16	58	30.036	49.73	51.33	0.330	29.701	0.259	5.7	0.0	1.38	5.62	2.81	5.0	
17	48	29.984	49.41	52.92	0.335	29.701	0.008	2.6	3.0	0.90	7.83	4.03	—	
18	200	29.824	50.76	51.91	0.339	29.645	0.055	5.4	4.0	2.90	5.40	3.81	—	
19	143	29.504	50.29	51.33	0.287	29.537	0.004	0.2	4.0	4.38	8.19	1.52	—	
20	122	29.624	46.58	49.03	0.290	29.214	0.000	1.5	0.0	4.04	5.87	1.97	—	
21	131	29.588	51.80	46.65	0.248	29.376	0.005	0.75	0.0	3.88	6.92	1.69	—	
22	143	29.874	53.35	49.41	0.293	29.295	0.039	1.75	0.0	3.13	3.74	2.44	—	
23	191	29.910	57.76	54.90	0.293	29.581	0.000	0.2	0.0	4.67	3.77	1.46	2.0	
24	156	29.758	54.66	57.56	0.290	29.620	0.000	0.0	0.0	5.04	6.13	2.71	—	
25	125	30.011	46.42	53.47	0.266	29.492	0.000	0.6	0.0	1.13	2.54	4.89	6.5	
26	217	4	47.95	50.04	0.250	29.761	0.041	0.0	2.5	2.17	1.12	3.87	2.0	
27	214	12	53.06	55.49	0.247	29.775	0.000	0.0	0.0	2.22	3.70	3.87	2.0	
28	214	46	57.64	61.90	0.244	29.654	0.000	0.5	0.0	1.92	3.46	4.13	—	
29	124	58	50.18	49.26	0.282	29.390	0.106	2.4	0.0	2.96	8.94	2.50	5.5	
30	105	52	49.91	48.83	0.296	29.285	0.064	4.75	0.0	4.13	8.46	2.55	5.0	
31	92	28	51.82	52.65	0.324	29.470	0.013	0.8	0.0	2.21	7.58	2.91	—	
Me.	123	7	50.38	51.07	0.295	29.495	1.294	73.05	36.0	2.97	6.43	2.78	3.71*	

* Mean Ozone for Night, 3.95; for Day, 3.67.

NOTE.—The mean direction of the wind is computed according to Lambert's formula, and the degrees given start from S. towards W., N., E., and S. again.

TABLE II.—(VIDE PLATE No. 2.)

MAXIMA AND MINIMA IN THE DIFFERENT METEOROLOGICAL ELEMENTS, AND DIFFERENCES BETWEEN THE SAME AND THE DAILY MEANS, IN THE MONTH OF AUGUST, 1858.

Days of the Month.	PRESSURE OF AIR.		PRESSURE OF VAPOUR.		TEMPERATURE OF AIR.		DIFFERENCE BETWEEN MEAN AND					
	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum of Pressure of Air.		Maximum of Pressure of Vapour.		Maximum of Temperature of Air.	
							Maximum	Minimum	Maximum	Minimum		
	inch.	inch.	inch.	inch.	deg. Fah.	deg. Fah.	inch.	inch.	inch.	inch.	deg. Fah.	deg. Fah.
1	30.111	29.891	0.312	0.218	54.86	35.91	0.115	0.105	0.044	0.050	9.63	9.32
2	29.883	29.693	0.305	0.263	53.51	44.37	0.130	0.060	0.024	0.018	6.47	2.67
3	29.865	29.697	0.326	0.253	54.86	43.50	0.091	0.077	0.032	0.041	6.38	4.98
4	29.891	29.819	0.375	0.291	55.73	42.60	0.035	0.037	0.051	0.033	8.30	4.83
5	29.813	29.696	0.362	0.263	61.31	41.27	0.037	0.060	0.050	0.049	12.65	7.39
6	29.739	29.644	0.306	0.215	61.09	36.36	0.043	0.052	0.041	0.050	12.80	11.93
7	29.919	29.639	0.359	0.253	60.86	46.60	0.157	0.123	0.059	0.047	7.61	6.65
8	30.010	29.936	0.377	0.291	60.19	43.72	0.044	0.030	0.048	0.038	9.38	7.09
9	29.955	29.624	0.339	0.292	60.64	47.72	0.137	0.194	0.023	0.024	6.27	5.65
10	29.607	29.263	0.378	0.279	53.41	49.28	0.210	0.129	0.042	0.057	6.41	2.72
11	29.661	29.294	0.372	0.302	53.51	46.40	0.201	0.166	0.028	0.042	4.12	2.99
12	29.721	29.624	0.321	0.282	54.18	46.40	0.049	0.048	0.023	0.016	5.06	2.72
13	29.887	29.709	0.321	0.273	51.50	46.17	0.099	0.079	0.025	0.023	3.30	2.03

TABLE II.—(CONTINUED).

Days of the Month.	PRESSURE OF AIR.		PRESSURE OF VAPOUR.		TEMPERATURE OF AIR.		DIFFERENCE BETWEEN MEAN AND					
	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum of Pressure of Air.	Minimum of Pressure of Vapour.	Maximum of Pressure of Vapour.	Minimum of Temperature of Air.		
	inch.	inch.	inch.	degrees	degrees	degrees	inch.	inch.	inch.	deg. Fah. deg. Fah.		
14	30.034	29.801	0.324	0.256	53.75	45.50	0.066	0.077	0.023	0.045	4.81	3.44
15	30.059	29.986	0.380	0.303	55.31	44.85	0.028	0.045	0.050	0.027	5.87	4.59
16	30.070	29.999	0.362	0.308	57.08	44.82	0.034	0.037	0.027	0.027	7.35	4.91
17	30.035	29.940	0.398	0.293	59.09	42.82	0.051	0.044	0.059	0.046	9.68	6.59
18	29.945	29.707	0.321	0.258	60.21	39.92	0.121	0.117	0.034	0.029	9.45	10.84
19	29.677	29.375	0.335	0.230	58.86	42.59	0.173	0.129	0.045	0.060	8.57	7.70
20	29.664	29.561	0.291	0.223	53.73	40.82	0.040	0.063	0.043	0.025	7.15	5.76
21	29.726	29.510	0.423	0.242	60.64	46.60	0.138	0.078	0.130	0.051	8.84	5.20
22	29.945	29.729	0.327	0.252	62.42	45.50	0.071	0.145	0.034	0.041	9.07	7.85
23	29.979	29.792	0.321	0.236	65.43	49.50	0.069	0.118	0.031	0.054	7.67	8.26
24	29.925	29.664	0.325	0.225	62.42	43.49	0.167	0.094	0.059	0.041	7.76	11.17
25	30.063	29.934	0.299	0.215	56.86	38.59	0.052	0.077	0.049	0.035	10.44	7.83
26	30.076	29.960	0.279	0.208	62.54	35.46	0.054	0.062	0.032	0.039	14.59	2.49
27	30.000	29.820	0.300	0.194	68.11	38.36	0.102	0.078	0.056	0.050	15.05	14.70
28	29.841	29.581	0.329	0.243	71.10	48.83	0.119	0.141	0.046	0.040	13.46	8.81
29	29.721	29.623	0.319	0.225	58.64	43.49	0.049	0.049	0.037	0.057	8.46	6.69
30	29.721	29.519	0.343	0.237	56.19	45.27	0.140	0.062	0.047	0.059	6.28	4.64
31	29.907	29.680	0.366	0.281	60.19	45.27	0.113	0.114	0.042	0.043	8.37	6.55
Means	29.885	29.703	0.339	0.253	58.81	43.61	0.095	0.087	0.043	0.0405	8.42	6.42

TABLE III.—(VIDE PLATE NO. 3.)

TABLE SHOWING THE HORARY VARIATIONS IN THE DIFFERENT METEOROLOGICAL ELEMENTS, AS DERIVED FROM OBSERVATIONS TAKEN IN MONTH OF AUGUST, 1858.

Time— Hours.	Pressure of Air.	Pressure of Vapour.	Pressure of Dry Air.	Temperature of Air.	Temperature of Soil.	Force of Wind.	Amount of Cloud.	Electric Tension.	Hours of		
									Rain.	Dew.	Fog.
midnight	inch. 29·805	inch. 0·284	inch. 29·521	deg. Fah. 47·03	deg. Fah. 45·38	3·08	6·82	2·310	0·19	0·03	0·07
1	29·802	0·286	29·516	46·64	45·32	2·80	7·39	1·955	0·20	0·10	0·07
2	29·795	0·283	29·512	46·26	44·93	3·00	7·10	1·937	0·28	0·10	0·03
3	29·787	0·282	29·505	45·99	44·53	3·05	6·76	2·287	0·17	0·13	0·03
4	29·776	0·284	29·492	45·92	44·46	2·85	7·22	2·337	0·16	0·10	0·03
5	29·782	0·281	29·501	45·54	44·10	2·87	7·10	2·387	0·13	0·23	0·03
6	29·787	0·292	29·495	45·25	43·92	2·70	6·92	2·670	0·15	0·16	0·03
7	29·797	0·279	29·519	45·50	43·83	2·70	6·50	3·477	0·06	0·00	0·13
8	29·808	0·289	29·518	46·96	46·31	2·74	6·47	4·617	0·06	0·00	0·07
9	29·813	0·305	29·518	50·40	51·75	2·70	6·26	4·022	0·07	0·00	0·05
10	29·813	0·313	29·500	53·71	56·78	2·86	6·00	3·404	0·03	0·00	0·00

TABLE III.—(CONTINUED).

Time— Hours.	Pressure of Air.	Pressure of Vapour.	Pressure of Dry Air.	Temperature of Air.	Temperature of Soil.	Force of Wind.	Amount of Cloud.	Electric Tension.	Hours of		Fog.
									Rain.	Dew.	
11 noon	29.807	0.313	29.494	deg. Fah. 55.62	deg. Fah. 61.18	3.00	6.00	2.700	0.02	0.00	0.00
1	29.790	0.308	29.482	56.75	64.04	3.42	6.00	2.442	0.07	0.00	0.00
2	29.773	0.312	29.461	58.21	65.54	3.55	6.00	2.051	0.03	0.00	0.00
3	29.762	0.316	29.446	57.40	63.72	3.35	6.30	2.177	0.07	0.00	0.00
4	29.760	0.305	29.455	56.86	63.50	3.30	6.00	2.130	0.03	0.00	0.00
5	29.760	0.302	29.458	55.40	58.54	3.10	5.70	2.327	0.06	0.00	0.00
6	25.767	0.307	29.460	52.70	53.46	2.87	5.24	3.368	0.07	0.00	0.00
7	29.780	0.300	29.480	50.94	49.43	2.52	5.00	3.455	0.07	0.02	0.03
8	29.793	0.297	29.496	50.18	47.97	2.70	5.20	3.486	0.08	0.08	0.08
9	29.800	0.293	29.507	49.65	47.14	2.84	5.50	3.253	0.07	0.08	0.10
10	29.810	0.290	29.520	48.96	46.73	2.82	6.63	3.026	0.08	0.05	0.13
11	29.810	0.290	29.520	48.29	46.19	2.95	6.78	2.656	0.11	0.00	0.15
	29.799	0.287	29.512	48.17	46.40	3.14	7.28	2.357	0.14	0.00	0.15

TABLE IV.
NEGATIVE ELECTRICITY IN THE MONTH OF AUGUST, 1858.

Day.	Hour.	Amount.	Wind.		Force.	Amount of		Remarks.
			Direction.	Wind.		Clouds.	Ozone.	
7	6 p.m.	3·85	West		2	9	3	Heavy clouds all round.
10	3 a.m.	0·50	North		5	9	...	Dark squally night.
10	8 a.m.	8·49	North-east		4	10	...	Heavy drops of rain.
11	8 a.m.	∞	West		1	10	2	Very heavy rain.
18	11 p.m.	2·38	North		2	10	2	Veil over the sky.
19	Midnight	4·42	North-north-east		2	9·5	·3	} Dense veil and strong gusts of wind (7-8).
19	1 a.m.	4·58	North by East		3	10	3	
19	2 a.m.	8·92	North		5	10	3	Masses of dust.
23	9 a.m.	1·43	North		7	1·5	2	Masses of dust.
23	4 p.m.	6·34	North		4	1	2	Clear evening.
24	8 a.m.	10·19	North-north-east		7	8	...	Masses of dust.

TABLE IV.—(CONTINUED.)

Day.	Hour.	Amount.	Wind.		Force.	Amount of		Remarks.
			Direction.	Direction.		Clouds.	Ozone.	
24	1 p.m.	∞	West		7	8	...	Tremendous squalls from the west, masses of dust.
24	3 p.m.	7.54	West		7	9	...	Tremendous squalls from the west, masses of dust.
27	9 p.m.	∞	North-east		1	9	1	Dark night and lightning.
27	10 p.m.	7.79	East		1	10	1	Heavy drops of rain and lightning.
28	Midnight	∞	North-east		1	7	...	Thunderstorm, very heavy.
28	1 a.m.	∞	North-east		1	6	...	Lightning continuously.
28	2 a.m.	∞	East		1	7	...	Lightning continuously.
29	2 p.m.	6.28	North-west		3	7	5	Fine misty rain.
29	3 p.m.	2.94	North-west		4	9	5	Fine misty rain with squalls.
29	4 p.m.	∞	North-west		4	10	5	Fine misty rain with squalls, W. 5.
30	2 p.m.	3.00	West by South		7	9	5	Heavy rain.

N.B.—In this table the amount of ozone is given which was registered at the hour of registration nearest to the hour of registering electricity.

SHOOTING STARS OBSERVED IN MONTH OF AUGUST, 1858.

TABLE V.

No. of Register.	Days of Month.	Period of Observing.		Melbourne Mean Time.		Estimated Azimuth at		Estimated Altitude at		Stars in vicinity.		Nucleus.		Tail.	
		h / h /	h / h /	h /	'	Appeara.	Disapp.	Appea.	Disapp.	Appearance	Disapp.	Magnit.	Color.	Length.	Direction.
130	2	(Accidentally)		h 8	' 14	N 56 E	N 70 E	°	°					°	..
131	3	6 30 to 7 0	7 0	6 35		N 30 W	N 35 W	30	20	<i>a</i> Aquilo	..	..	Light blue	..	..
132	3	6 30	7 0	7 0		N 25 W	N 30 W	25	20	Arcuburus	..	..	..	..	..
...	3	8 0	8 30	...	...	...	...	...	...	..	..	..	..	..	..
...	3	9 0	9 30	...	...	...	...	...	...	..	..	..	..	..	..
...	4	6 15	7 0	...	...	...	...	...	...	..	..	..	..	..	..
133	4	7 20	8 0	7 50		Disappearing	in	close	vicinity of	<i>a</i> Aquila	..	..	..	..	..
134	5	5 30	6 40	6 25		N 30 W	N 5 W	28	12	Arcuburus	..	..	White	..	..
135	5	5 30	6 40	6 35		N 40 W	N 30 W	40	32	Between	Bootes and Virgo	..	..	..	..
136	6	12 30	12 50	12 36		...	...	...	...	Scutum	Sobieski	5	..	..	..
137	6	12 30	12 50	12 40		...	...	...	...	Scorpion	..	5	..	..	..
138	6	12 30	12 50	12 50		Centre of its	route	between	<i>b</i> & <i>d</i>	Scorpii	Aquila	1	..	..	..
139	6	(Accidentally)		2 15		...	...	...	...	..	..	1	..	..	..
140	6	3 5	3 15	3 12		S 40 E	S 45 E	15	10	..	..	2	White	..	..
141	6	(Accidentally)		5 4		S 40 E	S 50 E	45	35	..	..	4	..	..	..

ZODIACAL LIGHT.—AUGUST, 1858.

August 4th, 7 h. p.m.—Very distinct.

August 31st, 7 h. p.m.—Not very well defined.

Whenever the sky was obscure, the Zodiacal Light was visible; but it was particularly well defined on the 2nd, 3rd, and 4th of August, so as to admit of ascertaining the position; and chiefly the southern edge was well defined, while the point and northern edge were less distinctly visible.

On the 3rd the following positions were taken:—

A. R.	South Edge.	North Edge.
Degrees.	Degrees.	Degrees.
203		
200	10·5 South Declination.	
195	14·0 South Declination.	5·0 South Declination.
190	15·0 South Declination.	4·0 South Declination.
185	15·0 South Declination.	2·0 South Declination.
180	15·0 South Declination.	2·0 North Declination.
175	16·0 South Declination.	8·0 North Declination.

The point was near Sproua apparently in A.R. 203°.

GEORGE NEUMAYER.

Flagstaff Observatory, *September*, 1858.

ART. XIII.—*Index of the Plants described in the Transactions of the Victorian Institute, of the Philosophical Society, and the Philosophical Institute of Victoria.* By DR. FERDINAND MUELLER.

The following abbreviations have been adopted, viz. :—

P.S. for Transactions of the Philosophical Society of Victoria.

V.I. for Transactions of the Victorian Institute.

P.I. for Transactions of the Philosophical Institute of Victoria.

ABUTILON Behrianum, octocarpum, P.S., i. 13

Acacia tenuifolia, Wilhelmiana, P.S., i. 37

Agrostis gelida, nivalis, V.I., 43

Ammannia Australasica, P.S., i. 41; crinipes, P.I., iii. 49

Angianthus brachypappus, P.S., i. 44

Anisacantha bicuspis, kentropsidea, V.I., 133; quinquecus-
pis, V.I., 134; tricuspis, V.I., 133

Antennaria nubigena, P.S., i. 45; uniceps, P.S., i. 105

Anthocercis angustifolia, P.S., i. 21; myosotidea, P.S., i. 20